

The Andalusian Network of Botanic Gardens in Natural Areas is firmly committed to support the development and efficient application of the World Conservation Strategy for Nature and the Convention on Biological Diversity. As centres for conservation, recovery and reintroduction of wild species, the Network takes part in the conservation strategy of the Regional Ministry for the Environment and coordinates actions with other regional, national and international organizations and institutions, such as the International Association of Botanic Gardens (IABG) or the Iberian-Macaronesian Association of Botanic Gardens (AIMJB).



Botanic Garden Network distribution
Biogeographic regions

DUNAS DEL ODIEL BOTANIC GARDEN

While visiting [this garden](#), you will get to know vegetation species and communities which are characteristic of the Andalusian Atlantic coast (Biogeographic Sectors of Cadiz, Huelva and the Algarve), an arch of around 20 to 30 km of width between the mouth of the Guadiana river in Huelva and the Barbate cliffs in Cadiz. The sea, which has an impact with the tides and its breeze (salt spray), characterises this space composed of large sandy areas dotted with abundant seasonal or permanent lagoons (with the exception of the rocky cliffs). Along with the lagoons, the small and large rivers and the contact between fresh and salt water in marshland form a unique landscape with a very diverse and rich flora.



RED ANDALUZA
JARDINES BOTÁNICOS
EN ESPACIOS NATURALES

RECOMMENDATIONS FOR VISITORS

- Please keep all areas clean and use the bins provided.
- Respect all plants in the garden.
- Follow the signposted routes.
- Taking photographs, drawing or simply observing are the best ways to enjoy your visit.
- If you walk in silence, you will be able to hear many different sounds.
- If you have any questions, please ask a member of staff.

INFORMATION AND RESERVATIONS

e-mail: reservatuvisita.amaya@juntadeandalucia.es

USEFUL ADDRESSES

Regional Ministry for the Environment
Provincial Office of Huelva
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21071 Huelva
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Dunas del Odiel Botanic Garden
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SYMBOLS USED

The plants are identified with plaques which include the following information: Common name in Castilian Spanish and scientific name (in Latin, followed by the name of the authors that wrote the description), botanic family, geographical distribution and level of threat, which is shown using the following icons:

- In danger of extinction ●
- Vulnerable ●
- Of special interest ●



Consejería de Agricultura, Ganadería,
Pesca y Desarrollo Sostenible



DUNAS DEL ODIEL

Andalusia's [prime location](#), between the Atlantic Ocean and the Mediterranean Sea, as well as between two different continents, allows for a huge range of ecosystems and environments, with a great variety of climates and terrains, where a rich botanical and mycological heritage has developed. The region has around 4,000 different species of higher plants and around 3,500 species of fungi. Many of these species are endemic to Andalusia and some of them are endangered due to several factors.



Botanic and mycological gardens contribute to the conservation of this natural heritage. For this reason, a [Network of Gardens](#) has been set up. They are organised according to ecological criteria, to improve awareness, to promote conservation and to exhibit plants and fungi which make up the Mediterranean Forest of Andalusia. Each of the different gardens in the network is dedicated to local flora and vegetation, paying special attention to rare and endangered flora, in coordination with all the other gardens. The Mycological Garden is a regional showcase of fungi in Andalusia.

Location

Dunas del Odiel Botanic Garden is located in Km 13.7 of the N-442 road, which links Huelva with Mazagon. Access is via Seville by the A-49 road direction Huelva (exit 77). Then via exit 84B of the H-31 road direction La Rabida, the H-30 road following this same direction until joining up with the N-442 road direction Mazagon until Km 13.7, where the Dunas del Odiel Botanic Garden is located.



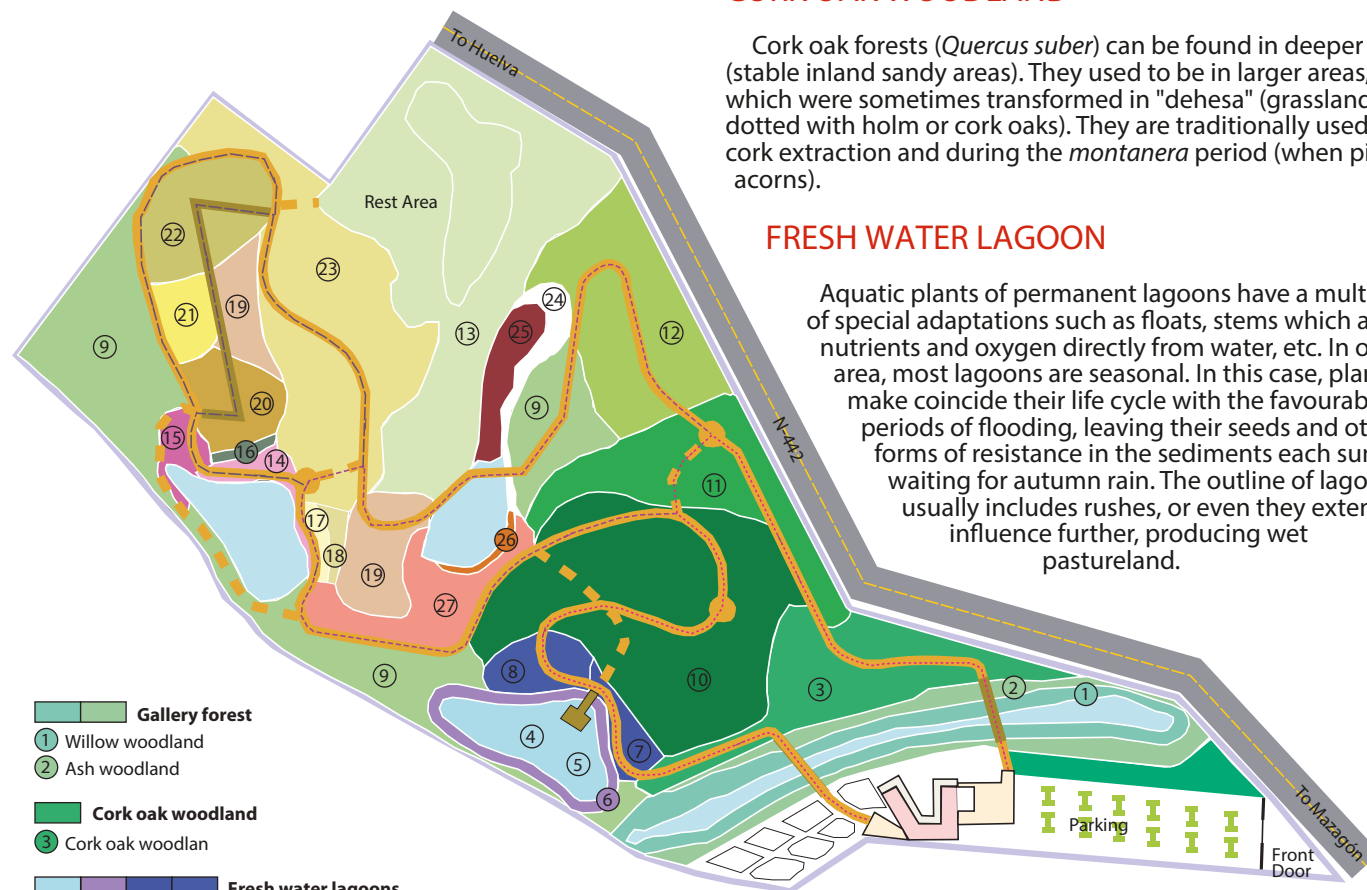
The Garden

GALLERY FOREST. WILLOW AND ASH WOODLAND

When arriving at the stream area, the environment is humid, cool and shady. Gallery forests can be found along streams of water flowing into the coast. Willows are close to the watercourse, along with bramble, wild roses, etc., forming a true green tunnel. There are also endangered species, such as the marsh fern (*Thelypteris palustris*). Further away from the watercourse, ash woodland links with cork oak woodland.



Marsh fern



- Gallery forest**
 - 1 Willow woodland
 - 2 Ash woodland
- Cork oak woodland**
 - 3 Cork oak woodlan
- Fresh water lagoons**
 - 4 5 Floating vegetation
 - 6 7 8 Lagoon perimeter vegetation
- "Corrales": System of dunes, "corrales" and coastal cliffs**
 - 16 Cliff
 - 17 18 19 Dune system
 - 20 Cadiz sandy areas
 - 21 *Corema album* plants
 - 22 Junipers
 - 23 Vegetation areas between dunes ("Corrales")
- Rushes**
 - 9 Rushes
- Stable sand**
 - 10 Savin shrubbery
 - 11 Mastic trees
 - 12 White shrub
 - 13 *Retama sphaerocarpa* shrubberies
- Salt water marshland**
 - 14 Estuary and coastal marshland
 - 15 Salt land vegetation
- Peat bogs and outlines of peat bogs**
 - 24 Black shrub
 - 25 Atlantic heathland
 - 26 Thorny plants
 - 27 Tamarisk plants
- Reception centre, classroom and laboratory
- Topical path
- Itinerary 1
- Itinerary 2
- Itinerary 3
- Itineraries under construction

CORK OAK WOODLAND

Cork oak forests (*Quercus suber*) can be found in deeper soils (stable inland sandy areas). They used to be in larger areas, which were sometimes transformed in "dehesa" (grassland dotted with holm or cork oaks). They are traditionally used for cork extraction and during the *montanera* period (when pigs eat acorns).

FRESH WATER LAGOON

Aquatic plants of permanent lagoons have a multitude of special adaptations such as floats, stems which absorb nutrients and oxygen directly from water, etc. In our area, most lagoons are seasonal. In this case, plants make coincide their life cycle with the favourable periods of flooding, leaving their seeds and other forms of resistance in the sediments each summer, waiting for autumn rain. The outline of lagoons usually includes rushes, or even they extend its influence further, producing wet pastureland.

DUNE SYSTEMS AND CLIFFS

Dunes are formed by sand washed ashore by currents and tides from the sea and, when in land, by the wind. Vegetation contributes to the settlement of dunes, with small size species (*Ammophila arenaria*, *Eryngium maritimum*), as well as *Corema album* and junipers (both of them protected by law) and stone pines in the "corrales" (vegetation areas between dunes). Cliffs have just a few species of plants which are able to live in the crevices of rocks, the only places where there is some soil and humidity available.

MARSHLAND, "CAÑOS" AND SALT LAND VEGETATION

Marshland and salt land had to be represented in this garden because of being so common on this coast. The flora lives in physiological dry conditions because salt water cannot be directly absorbed by plants. A process similar to when water is purified has to be carried out (reverse osmosis). "Almajos" and "sapinas" (*Salicornia*, *Arthrocnemum*, *Suaeda*), amongst other species, are an example of how to live in completely inhospitable environments.



Wild carnation

SETTLED SANDS

Savin shrubberies can be found substituting the junipers inland, where there is not so much influence of sea air. As junipers, sabins can live over 1,000 years of age. In places where cork oaks used to live, the white shrub can now be found, called "white" because the whitish colour of the *Alimium alimifolium*. It is an indication that water in the subsoil is over two metres in depth. Mastic trees are predominant on more clayey soils.



Ulex minor

PEAT BOG

Peat bogs are accumulations of peat resulting from the slow decomposition, in absence of oxygen, of vegetation remains in marshy areas. They are especially sensitive to any alteration, either natural or artificial of the hydrological regime, even to the point of disappearing. We can also find the Atlantic heathland of *Erica ciliaris* (an exceptional formation in Andalusia), as well as the black shrubland (with a different type of heathland), which is found in sandy areas where water is around 50 cm under the surface.



Cistus psilosepalus